

**An open letter to conservation leaders and researchers
concerning
adverse impacts to migratory songbirds from tall windmills**

I'm writing to share concerns about the potential threat to songbirds from the new generation of very tall windmills currently being proposed throughout the Appalachians. These "windfarms" are industrial facilities that can contain from 20 to several hundred windmills - each up to 460-feet tall. Large windfarms are under review now for placement on high elevation ridgetops in Maryland, Pennsylvania, West Virginia and Tennessee. I understand that large windfarms may soon be proposed along the ridges of Virginia, North Carolina and New York.

I am very concerned that windfarms sited atop prominent north/south-trending ridges in the Appalachian region may be a serious threat to nocturnal migrant songbirds. A vast number of songbirds seasonally funnel through our region by following these landforms - the majority does so at night. Nocturnal migrants such as warblers and sparrows have long been known to fly at altitudes low enough to be killed at larger communication towers. However, recent studies have shown that a significant fraction may fly low enough during normal conditions to encounter tall windmill structures (under 450 feet) – see figure 4 in: <http://www.nationalwind.org/pubs/avian98/21-Evans-Acoustics.pdf>. An added concern is that migrating birds are likely to fly even lower when passing over or along these ridgetops.

Windfarm developers throughout the region are attempting to expedite the review and approval process in order to beat a deadline for a federal tax credit promoting alternative energy production. In addition, these developers are attempting to persuade the public and decision-makers that their windfarms do not pose a significant threat to migrating songbirds based primarily on the low numbers of bird kills found during previous windfarms studies elsewhere in the country. Although these studies have found relatively low bird mortality caused by windmills, nearly all study areas are located west of the Mississippi and the few study sites in the east may not be directly comparable to newly proposed windfarm sites on prominent ridgetops since they were mostly located on farm-field or grassland habitat and often involved much shorter windmill structures. It is a well-known fact that tall communication towers in the west do not cause significant bird mortality as compared to similar tall structures in the east.

Unfortunately, very little is known about the numbers, species and altitudes of nocturnal migrants that may pass over individual ridges during migration. This lack of knowledge is further confounded by the variability in migration caused by weather and time of year. Sadly, it is this lack of basic information about nocturnal migrant songbirds that has enabled the developers of new windfarms to avoid an adequate assessment of potential impacts.

Consultants for windfarm developers in MD and WV have prepared "avian risk assessment" reports, which concluded that "no significant impacts" are likely to songbirds and other wildlife based on collisions with the new generation of windmills. This conclusion was made despite the fact that these very tall structures would be sited in long arrays running for miles along the same

prominent Appalachian ridgetops noted for bird migration. However, their assertions are not substantiated by good scientific information or site-specific research - and merely reflect the consultant's personal opinion. An "avian risk assessment" is included in each application for permission to construct the MD and WV windfarms; all are very similar in form, substance and conclusion.

However, an independent expert was recently hired by the Maryland Department of Natural Resources to review the "avian risk assessment" prepared by the consultant for our two windfarm projects. The DNR's consultant - Dr. Michael Morrison, a widely-recognized authority concerning windpower-bird interactions, noted that the applications for these projects to the Maryland Public Service Commission did not follow the siting guidelines established by the windpower industry - which call for pre-construction surveys to collect baseline information about bird activity at sites with concerns about collision impacts. The consultant's "priority recommendation" called for project approval to be delayed in both cases until at least one year of baseline data is collected and evaluated. Sadly, the DNR chose to ignore their own expert's advice and now support the project - proposing only very weak conditions that primarily involve the study of post-construction bird mortality.

Efforts are underway in MD and WV to greatly expand the current number of windfarm proposals with the desire of making the region the "Persian Gulf of Windpower" and the "Saudi Arabia of Windpower", respectively. I believe similar windfarm projects are being proposed elsewhere in the Appalachian Mountain region (from NY south to North Carolina and Tennessee). Windfarms are expected to rapidly proliferate throughout the Appalachians because most of the ridges have relatively high wind energy potential, because of tax subsidies and increased demand for "green" energy (i.e., Renewable Portfolio Standard legislation), and because there are few permitting requirements. Incredibly, there appears to be no federal nexus for these projects that could trigger an assessment of their cumulative impact (i.e., NEPA).

I would be interested in hearing if others in the mountains of the East have similar concerns over the rapid deployment of this relatively new industry along the Appalachian migration pathway. We need to slow the rush to construct windfarms in areas that are especially prone to interfere with bird migration. Not only would a more deliberative approach in the siting of windfarms help protect declining songbird populations, but it also would likely prevent another disaster like "Altamont, California" -- which may prove devastating to the nascent windpower industry.

For additional information see attached comments of Dr. Chandler S. Robbins - who is deeply troubled over proposals to site windfarms on Appalachian ridges. Dr. Robbins considers the proliferation of windfarms in the Appalachians to have the "potential to pose the greatest hazard to continental songbird populations since DDT."

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[Dr. Robbins provided these comments on October 8, 2002 to the Maryland Public Service Commission and joined as an INTERVENOR in case #8938 involving a proposal to construct the Allegheny Heights Windpower Facility. This "windfarm" contains 67 windmills – each nearly 400-feet tall – that are proposed for an 10-mile stretch of ridgetop on Backbone Mountain in southern Garrett County, MD. Due to their great height, these windmills will require FAA lighting for aircraft safety. The 44-page report written by Dr. Paul Kerlinger on behalf of the windpower developer is entitled "PHASE I AVIAN RISK ASSESSMENT FOR THE ALLEGHENY HEIGHTS WIND POWER PROJECT, GARRETT COUNTY, MARYLAND" and may be downloaded from the world wide web; see:
http://webapp.psc.state.md.us/intranet/casenum/NewIndex3_VOpenFile.cfm?filepath=D%3A%5CCasenum%5C8900%2D8999%5C8938%5CItem%5F001%5CpdfAppendix%20A%2Epdf&CFTREEITEMKEY=Appendix+A.pdf]

Comments on Proposals for Windpower Facilities on Allegheny Ridges

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I am concerned because a 44-page report written for Clipper Windpower, Inc. by my friend Paul Kerlinger appears to grossly misrepresent the threat to migratory birds by the Windpower Project. Paul is a respected New Jersey birder who has done research on hawk flights, etc. on the New Jersey shore, but he is totally unfamiliar with bird migration in western Maryland and he failed to contact people who are knowledgeable about that migration. He also failed to examine the 55 years of bird migration material published in *Maryland Birdlife*, of which I am editor. He claimed that the ridge tops were not important to migrating birds, even though in Appendix 3 he quoted Ed Thompson as saying "lots of birds use them" and he cited Bob Ringler as saying the ridge tops are "primary routes for migrating songbirds."

We have known for 50 years (Robbins, *Maryland Birdlife* 6:1-11, 1950) that migrating hawks use essentially all the ridges in western Maryland during their spring and fall migrations. Nearly all the hawks and eagles that nest in the northeastern U.S. and the eastern provinces of Canada migrate through Maryland. Tens of thousands of them take advantage of the rising air currents over the ridges every year. One of the rarest of these is the Golden Eagle. Over the years, the late Jim Paulus counted a very impressive 500 Golden Eagles as well as tens of thousands of other raptors migrating along the top of Town Hill ridge.

It is common knowledge that thrushes, which are notoriously vocal in flight, fly low along the ridges in their nocturnal migration. Paul acknowledged in Appendix 3 that Bob Ringler had mentioned this, yet in the main report Paul claimed that the birds only flew high and would not be low enough to hit the blades. More than 50 years ago, Orville Crowder and I set up a spotting scope beside old route US 40 at the summit of Town Hill and watched the silhouettes of migrating birds crossing the full moon. These migrants were flying just a few hundred feet above the ground and were easily audible from our position. Paul's statement that "night migrants are not known to follow ridges at night" is dead wrong and is irresponsible and dangerous when used to imply that ridgetop wind generators are no hazard to migrating birds.

Migrants are well known to follow "leading lines" such as shorelines, rivers, and ridges that are oriented in the direction they are heading. Migrants gain lift from the updrafts along even minor ridges, such as along the Fall Line where my house is Laurel is located. In a continent-wide study of nocturnal migration in 1953 (Lowery and Newman, pp. 238-263 in *Recent Studies in Avian Biology* by Albert Wolfson, ed., Univ. Ill. Press, 1955) involving observations at 325 localities, my Fall Line tally of birds silhouetted against the moon on the night of September 22-23, 1953, was the highest on the continent; when extrapolated to the standard measurement of birds crossing a line one mile long (and corrected for the angle of the moon), it was determined that 230,000 migrants passed over my house that one night.

Paul acknowledged that birds do follow the Allegheny Front, based on George Hall's fall migration banding station. I looked at Dr. Hall's fall banding summaries for the last five years for which they have been published in *North American Bird Bander* (1996-2000) and compared his catch per unit effort with mine in Laurel for the same five years. He caught an average of 67 birds per 100 net-hours compared to 9 at my station. By this ratio, 1.7 million birds could migrate along the Allegheny Front in a single night, and, using William Evans' acoustic measurements from the Appalachians in upstate New York (Applications of Acoustic Bird Monitoring for the Wind Power Industry, see www.nationalwind.org/pubs/avian98/21-Evans-Acoustics.pdf), one quarter of these, more than 400,000 birds would be flying less than 400 feet above the ridgetop.

Migration along the ridges certainly is not inconsequential as claimed by Paul Kerlinger. Millions of birds from the northern half of the North American continent regularly funnel into the Appalachian ridges; see the Canadian Atlas of Bird Banding by D. Brewer et al. (Special Publication, Canadian Wildlife Service, 2000) to view documented records of birds from all across Canada converging on the Appalachian ridges.

Paul did correctly cite material from Christmas Counts, Breeding Bird Survey, and the MD/DC Atlas, to show that there were no endangered species nesting or wintering at the sites. He did not mention, however, that the entire population of the endangered Kirtland's Warbler has to fly over the central Appalachians twice

a year between their Michigan breeding ground and their winter home in the Bahamas.

He cited many references to lack of or small number of bird casualties at wind turbines elsewhere, but in no case did he provide supporting evidence of protocol and time spent (if any) searching for dead birds.

In view of the enormity of the potential threat to the North American migratory bird population, it is my strong recommendation that no construction should begin on this project in Maryland until the impact on birds at a similar unit that is nearing completion in nearby West Virginia is thoroughly evaluated.

Qualifications of author:

Birds of Maryland and DC, 1958 (coauthor with R. E. Stewart)

Birds of North America, 1966 (senior author)

Trustee, Cornell Laboratory of Ornithology, 1982-87

Trustee, Hawk Mountain Sanctuary Association, 1987-99

Trustee, Hawk Migration Association of North America, 1988-93

Research Wildlife Biologist with U.S. Fish and Wildlife Service, 48 years

Past President, Maryland Ornithological Society

Editor, Maryland Birdlife, 50+ years

Technical Editor, Audubon Field Notes/American Birds, 1952-89

Senior Editor, Atlas of the Breeding Birds of Maryland and DC, 1996

Fellow, American Ornithologists' Union

Council Member, Association of Field Ornithologists, 1999-2003

WHY THERE IS NO NEED FOR PROLIFERATION OF WINDFARMS IN EAST

In regards to the windpower potential in the US, please check out the following website: <http://www.nrel.gov/wind/potential.html> [see figures 2 & 4 from this report, on back]. Note that this study found over 1/2 of total US consumption of electricity in 1990 could be provided by windpower generated in the Dakota's alone!

Consequently, it is difficult to understand the current rush to site windfarms in the East given the much greater potential for wind-generated energy in the sparsely populated (both human and bird) regions of the West. Sure, there's money to be made - from both consumers and public coffers; but a rapid deployment of windpower facilities in the East appears to be short-sighted and may extract "sacrifices" of our natural and cultural heritage that are unnecessary - due to the "wealth" of windpower resources in the Great Plains. If only a very small fraction of the wind energy potential of the Upper Mid-west were tapped, the electricity output would dwarf that produced from windpower in the entire eastern region of our country.

WHY WINDFARMS IN EAST WILL NOT REDUCE USE OF COAL

In addition, the small amount of wind energy available in the East, even if fully tapped, likely would not greatly reduce the use of coal for generating electricity. However, wind-generated electricity production would mainly supplant the most costly -- but cleanest form of fossil-fuel energy -- natural gas. In addition, the growth in demand for electricity in the East would greatly exceed the potential output from windpower projects built in this region. Consequently, the use of "dirty" coal -- due to its cheap cost and because of the tremendous growth in demand for stable sources of electricity -- will not be greatly impacted by windpower development in the East (especially from windfarm projects on Appalachian ridges).

INCENTIVES AND DEMAND FOR WINDFARMS ARE ROOT OF PROBLEM

Current federal tax law provides a production credit (tax subsidy) for windpower projects. This legislation has been repeatedly renewed since its inception in 1992, and this tax credit for renewable energy projects is expected to be renewed once-again (it is slated to expire at the end of 2003). In addition, there is a national movement to increase the demand for wind and other "renewable" energy sources. Legislation is being sought at both the national level and in individual states to create a "Renewable Portfolio Standard" (RPS), which would require the companies that sell electricity to customers to provide a fixed percentage from "renewable" energy sources. Although this sounds like good public policy - aimed at reducing fossil fuel combustion, an unintended consequence likely will be the inappropriate siting in the East of thousands and thousands of windmills at areas where birds migrate or concentrate (e.g., offshore windfarms and along Appalachian ridges). For example, if Maryland passes RPS legislation in 2003, it could create the demand for over 800 super-tall windmills -- somewhere in the grid. Unfortunately, no federal policy or state policy exists to insure that windfarms in the East are adequately reviewed or properly sited. And for the Appalachian ridges, there is no requirement to assess the cumulative impact to migratory birds from the increasing number of large windfarms currently proposed or underway in the region.

Source: <http://rredc.nrel.gov/wind/pubs/atlas/maps/chap2/2-01m.html>

